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| **LESSON TITLE: Trash and Landfills** | **Teacher:** D. Bromfield  **Class:** V38  **Unit: Nonfiction**  **Duration: 2 periods**  **Date:** April 28, 2017 |
| **Big Idea:** The effect of trash in landfills  **EQ:** How does trash last in landfills? |
| **Standard Addressed:**  **W.8.2:** Write informative/explanatory texts to examine a topic and convey ideas, concepts and information...  **RST.6=8.8:** Distinguish among facts, reasoned judgment based on research findings… |

PLANNING AND PREPARATION **1A** KNOWLEDGE of CONTENT ANDPEDAGOGY

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| **1C:** SETTING INSTRUCTIONAL OUTCOMES  **Objective:** Students will   1. Estimate how long trash last in a landfill 2. Explain why we should recycle | | |
| Content (**KNOW**) /SKILL **(DO**)  **1E** DESIGNING COHERENT INSTRUCTION  **CONTENT:** Protecting the environment  **SKILL:** Categorizing | Academic Vocabulary  **1A:** KNOWLEDGE OF CONTENT  estimate, trash, environment, protection, recycle, landfill, garbage, biodegrade, degrade | MATERIALS **1D**  Banana, soda can, glass bottles, paper bag, plastic bottle, Styrofoam cup, cotton rag, leather boot, vegetable can, wool sock, rubber sole of a shoe |
| POTENTIAL MISCONCEPTIONS (M)   * Students may overestimate the length of time for an item takes to degrade. | | |

INSTRUCTION **1E** DESIGNING COHERENT INSTRUCTION/**3A** COMMUNICATE DIRECTIONS AND EXPECTATIONS

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| Step | Activity | Teacher Actions | Student Actions |
| **1**  10 min | **Whole Group:**  Introduction: vocabulary words  Students watch video | Present chart with vocabulary words.  Introduce video of a landfill  https://www.youtube.com/watch?v=mA608GJ-EzM  Discuss and ask questions to enhance understanding about landfills | Identify vocabulary words.  After watching video answer questions about landfill |
| **2**  15 min | **Small Group:**  **Sort items** | **Present items that could end up in a landfill:**  Banana, soda can, glass bottles, paper bag, plastic bottle, Styrofoam cup, cotton rag, leather boot, vegetable can, wool sock, rubber sole of a shoe | Sort items based on the time it would take to degrade in a landfill |
| **3**  15 min | **Small Group:**  **Share and compare list** | Call on each group to write their on the smartboard  Ask questions to facilitate understanding | Write list of items based on the time it would last in a landfill |
| **4**  15min | **Small Group: Time the items** | Present chart with items in order  Ask question: How many weeks, months, or years each item would last in a landfill? | Write the time it would take for each item to degrade. Student share their estimation. |
| **5**  20 min | **Whole group:** | **Share scientific approximations**.  Example  Banana 3 – 4 weeks  Paper bag – 1 month  Cotton rag – 3 months  Wool sock – 1 year  Leather boot – 40 t0 50 years  Rubber sole – 50 to 80 years  Tin can – 80 to 100 years  Soda can – 200 – 500 years  Plastic bottles – 450 years | **Assessment:**  **1.**What does the data tell you about landfills?  **2.** Do items continue to degrade and make room for more garbage? Or will the landfills eventually fill up?  **3.** Do the trash life span say anything about the importance of recycling? |

**GROUPING/DIFFERENTIATION**

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| **GROUPING:** **How will students be grouped to maximize learning outcomes?**  **1B:** Know YOUR STUDENTS/**2D** MANAGE STUDENT BEHAVIOR  Mixed grouping is used to facilitate a balance as peers work together to support and encourage each other. | |
| **DOK** – LEVEL OF COMPLEXITY  **Level 2: Skills and Concepts** – Interpret,  Explain and Infer  **Level 3: Strategic Thinking/Reasoning** –  show evidence, and use reasoning that is more complex | **Universal Design for Learning** (**UDL**)  **3C** ENGAGE STUDENTS  **Principle 1: Multiple and flexible methods for students acquisition of knowledge**   * Ask students what they know * Prompt students to record what they know * Supplement prior knowledge with interactive discussion   **Principle 3: multiple and flexible options for student engagement**   * Provide continuous and specific feedback. * Vary the level of challenge on a work task as appropriate for individual students. * Allow students to practice with support |

ASSESSMENT **3D** USING ASSESSMENT IN INSTRUCTION

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| Formative Assessment(s)  **3D** CHECK FOR UNDERSTANDING and REVEAL MISCONCEPTIONS  Questions that connect to/explain evidence that supports response. | Questioning and Discussion  **3B** ENCOURAGE HIGHER LEVEL THINKING  **Use evidence from the lesson to support response**   * Students give responses to support end product |

Web Site: http//www.educationworld.com/a\_lesson/03lp308-04.shtml